REMARKS

Claims 55 and 72 have been objected to because of various informalities. Claim 55 has been amended to remove the back-to-back instance of "during". Claim 72 has been amended so that it is correctly dependent upon claim 71.

Claims 50, 66-69, 71-73, 80 and 81 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Emmett, Jr. et al (US 5,007,620) in view of Applicant's admission of prior art and Eppstein et al (US 4,680,267). In paragraphs 3-6 of the specification, the Applicant identifies a problem with prior methods for recovering zinc from zinc bearing sulphide minerals when air is used. The Applicant has indicated that the solubility of oxygen is limited at high temperatures and the rate of sulphide mineral leaching becomes limited. This statement by the Applicant has been provided to indicate a problem with the prior methods of recovering zinc and should not be construed as an admission of prior art. Merely identifying a problem in the recovery process should not make the Applicant's solution of the problem obvious. Additionally, the Applicant claims a method including the step of supplying a feed gas which contains in excess of 21% oxygen by volume. As indicated on page 3, lines 1-5 of the specification, the oxygen content is greater than the oxygen content of air. Therefore, in order to supply the required oxygen, one must use oxygen enriched air or pure oxygen in order to achieve the high dissolved oxygen concentration rates. None of the references cited by the Examiner disclose or suggest a method of recovering zinc by supplying a feed gas which contains in excess of 21% oxygen by volume. The Emmett, Jr. reference (US 5,007,620) only discloses supplying a feed gas containing air. Normally, air only contains 21% oxygen by volume. Likewise, it would not

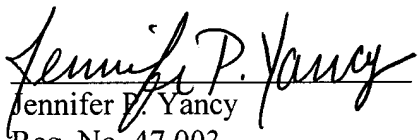
be obvious to use a supply feed gas which contains in excess of 21% oxygen by volume. It is generally known that using a higher concentration of oxygen in the feed gas increases the expense of the recovery method and reduces microorganism growth, which would stop sulphide mineral bioleaching. Therefore, one of ordinary skill in the art would look towards other methods of maximizing the reaction rate. Additionally, the Applicant has unexpectedly discovered that dissolved oxygen concentration in the slurry must be controlled from 0.2×10^{-3} kg/m^3 to 10×10^{-3} kg/m^3. The lower limit is needed to sustain microorganism growth and mineral oxidation. On the other hand, a dissolved oxygen concentration that is above the upper limit would inhibit microorganism growth. None of the references cited by the Examiner disclose these critical limits. Additionally, these limits would not be obvious to one of ordinary skill in the art. The references provide no guidance as to how the reaction may be optimized or which criteria are critical for maximizing the reaction rates. For the foregoing reasons, the Applicant submits that the rejection has been overcome and requests reconsideration.

Claims 51-65 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Emmett, Jr. et al (US 5,007,620) in view of Applicant's admission of prior art and Eppstein et al (US 4,680,267) as applied to claims 50, 66-69, 71-73, 80 and 81 above, and further in view of Steemson et al (WO 94/28184). For the reasons stated above, Applicant respectfully asserts that this rejection has been overcome.

Claims 70 and 74-79 are rejected under 35 U.S.C. 103(a) are unpatentable over Emmett, Jr. et al (US 5,007,620) in view of Applicant's admission of prior art and Eppstein et al (US 4,680,267) as applied to claims 50, 66-69, 71-73, 80 and 81, and further in view of Hutchins et al (US 4,729,788). For the reasons stated above, Applicant respectfully asserts that this rejection has been overcome.

In view of the foregoing, Applicant respectfully submits that the art rejections are overcome and that the application is now in condition for allowance. Accordingly, favorable reconsideration and allowance of the application is respectfully requested.

Respectfully submitted,



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